IPAL
Quality in Adult Education

Co-funded by the
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of the European Union

Using interactive (online and digital) resources, e-learning tools and social media in adult education; ICT-based tutoring services, pedagogies and practices

Content	Theoretical Knowledge	Skills	Competences
TPCK & components of ICT *Online learning & ICT based tutoring (including examples)* *E-learning tools* *Best Practices & Strategies*	*- TPCK – Technological Pedagogical Content Knowledge* *- Advantages of online learning* *- Important things to consider in online learning* *- Wide variety of suggested tools and their purpose*	*- Understanding the relationship among content, pedagogy and technology* *- Understanding the components ICT method* *- Understanding the advantages and limits of online training* *- Creating online learning environment*	*- Analysing the TPCK framework* *- Assessing ICT components* *- Facilitating online learning* *- Cooperative learning* *- Understanding the use of various online tools in learning environments* *- Creating ICT based training sessions* *- designing online training & sessions*

Introduction

Education and learning always strive for improvement - that is the reason why traditional learning models are being upgraded with components of interactive learning, online learning tools and social media. Interactive learning is a holistic methodology that has both online and offline components, which together, with the help of online learning tools and social media, make a complete educational experience.

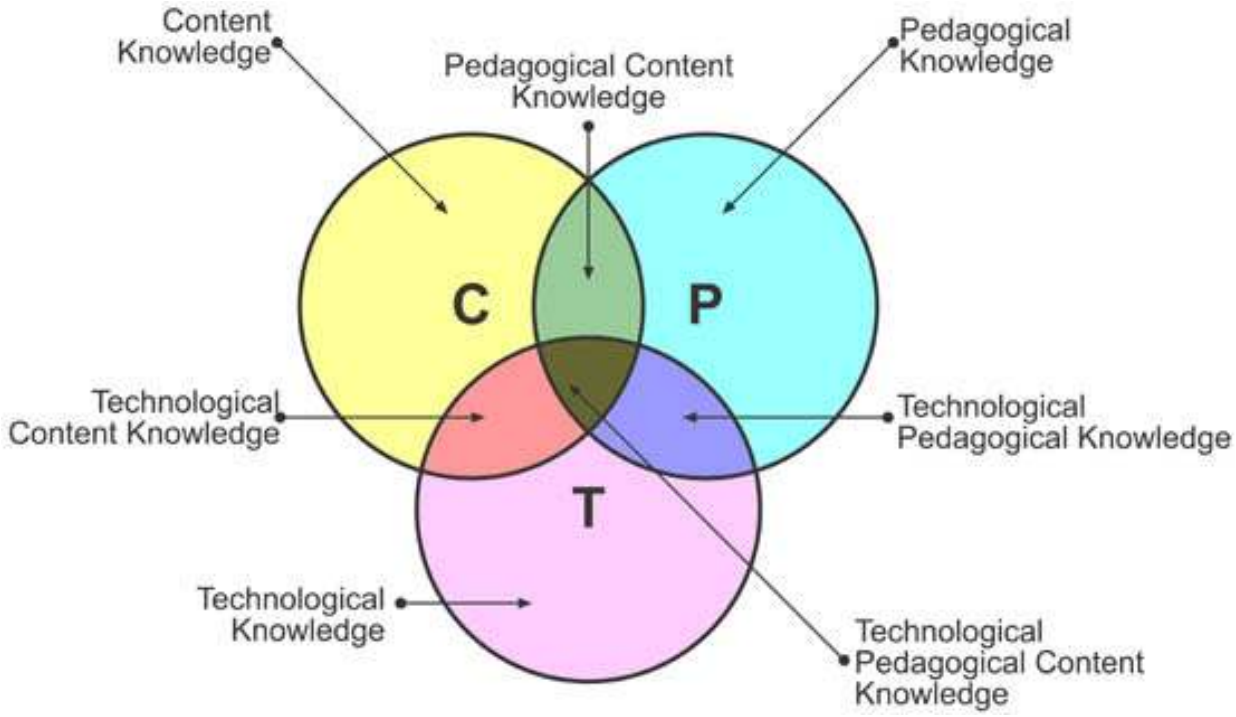
The following module will develop the topics of online learning, ICT (information and communication technology), TPCK (technological pedagogical content knowledge), tools for online learning and best practices to implement the latter into classrooms.

Topic 1 | TPCK & components of ICT

TPCK – Technological Pedagogical Content Knowledge

Technological pedagogical content knowledge (TPCK) is a framework consisting of three knowledge bases, which allows the creative repurposing of traditional approaches.

Considering P and C together we get Pedagogical Content Knowledge (PCK), knowledge of pedagogy that is applicable to the teaching of specific content. Similarly, considering T and C taken together, we get Technological Content Knowledge (TCK), knowledge of the relationship between technology and content. At the intersection of T and P, is Technological Pedagogical Knowledge (TPK), which emphasizes the existence, components and capabilities of various technologies as they are used in the settings of teaching and learning. Effective technology integration for pedagogy around specific subject matter requires developing sensitivity to the dynamic relationship between all three components.



- **Content**
  This is the knowledge that the teacher has about the actual subject he is teaching. Teachers must know and understand the subjects they teach, including: knowledge of central facts, concepts, theories and procedures within a given field; knowledge of explanatory frameworks that organize and connect ideas; and knowledge of the rules of evidence and proof.
- **Pedagogy**
  This includes a deep knowledge about the processes, practices and methods of teaching and learning and how it fulfils the actual aims, values and purposes. This is a generic knowledge of all student issues. The teacher has to distinguish how each one of his students assimilates information, how to correctly evaluate the students and how to manage the class. As such, pedagogical knowledge requires an understanding of cognitive, social and developmental theories of learning and how they apply to students in their classroom.
- **Technology**
  This is the knowledge about basic technology skills, such as how to use the board, books and computers. Nowadays it is more associated with the ability to work with particular computer programs, systems and computer hardware, as well as the ability to use a standard set of software tools such as word processors, spreadsheets, browsers, email etc. TK would include knowledge of how to install and remove peripheral devices, install and remove software programs, create and archive documents.

ICT - Information and Communication Technologies

ICT aims to incorporate the new technologies into the traditional learning process. Nowadays ICT's are transforming schools and classrooms into new looks by bringing in new curriculum based on real world problems, projects, providing tools for enhancing learning, providing teachers and students more facilities and opportunities for feedback. ICT is a great start to make every class more student-centred, as it is an excellent tool for information acquisition; thus, students are encouraged to look for information from multiple sources and they are now more informed than before. ICT enables better communication, presenting ideas in a more effective and relevant way. It creates awareness for the teachers of innovative trends in instructional methodologies and evaluation mechanisms for professional development. The main benefit of the ICT is that it slowly closes the gap between teachers and students, because teachers being up to date with the new technologies gives them the opportunity to create and add more interesting and relevant topics to the students content.

Worldwide research has shown that ICT can lead to an improved student learning and better teaching methods. A report made by the National Institute of Multimedia Education in Japan,

proved that an increase in the use of ICT in education with integrating technology to the curriculum has a significant and positive impact on students' achievements. The results specifically showed that the students who are continuously exposed to technology through education have better 'knowledge', presentation skills, innovative capabilities, and are ready to put more effort into learning as compared to their counterparts. With the help of ICT the information is being delivered faster and smoother, and the learning is easier.

Being able to teach according to the ICT method requires more specific skills in the field of technology, therefore, it's a time consuming process to excel at. Some of the courses the teachers can take are Simulated Teaching, Micro Teaching, Programmed Instruction, and Team Teaching. Nowadays the majority of studies are interdisciplinary, which is why ICT is a preferable method.

Components of ICT

A survey about the ICT's competences of the teachers in Mexico and USA, determined three main components of the method with 13 domains:

1) Basic ICT skills which contain knowledge of computer systems, use of operating systems, searching the internet, communication and networking, word processing and use of spreadsheets.

2) Advanced ICT skills which contain image processing, use of databases, technological platforms and web 2.0 tools.

3) Multimedia and attitudes toward ICT which contain entertainment and learning with ICT, online procedures and general attitudes towards ICT.

Researchers concluded that most of the participants mainly had knowledge about the basic ICT skills, of which "use of spreadsheets" was the least knowledgeable.

It was also found that multi-media and attitude toward ICT had a middle level of competency.

The competency score of the advanced ICT skills was found to be lowest among the three different ICT competencies.

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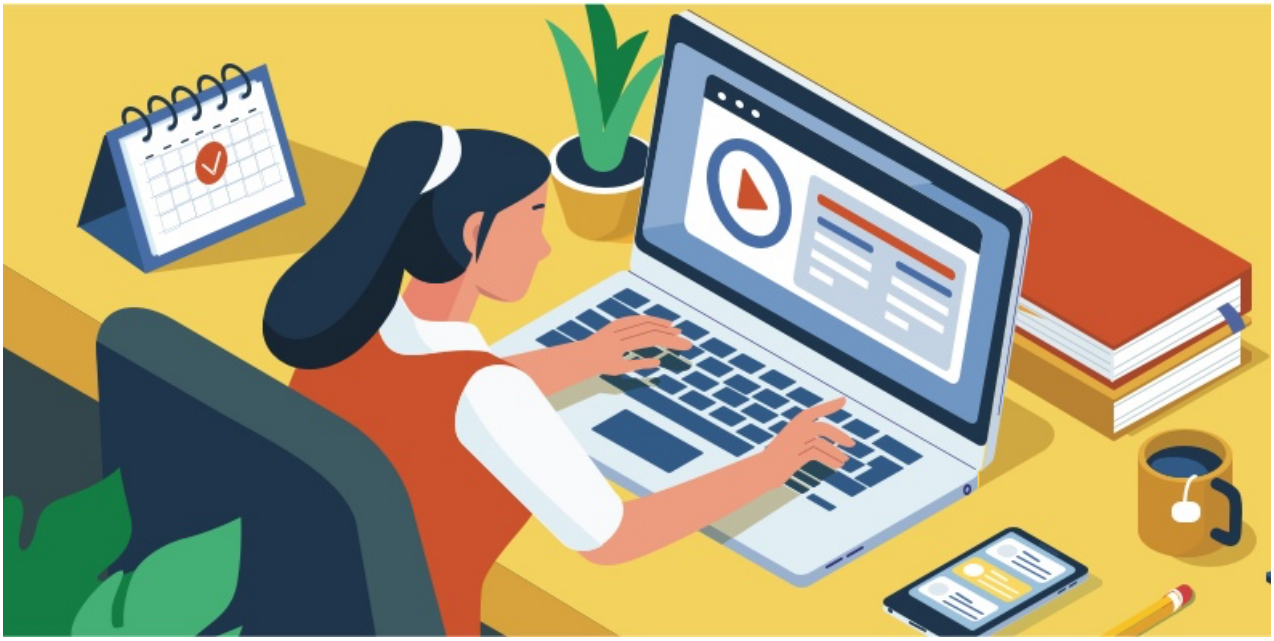
Topic 2 | Online learning & ICT based tutoring



Online learning (or e-learning) is interesting from several points of view. E-learning has developed significantly over the last decade so that it is not difficult to encounter an increasing number of courses, masters and schools offering study solutions that do not require a physical presence in the classroom.

These are some of the aspects that make online learning an attractive option:

- Technological development is one of the most relevant factors. Telecommunications technology today allows us to carry out exercises effectively thanks to video, voice recognition, automatic correction, streaming exams, etc.
- Ease of keeping track of one's studies. In a physical class, we would have to take notes on the topics covered by the professors, whereas in an online class everything is recorded, either on video or in writing.
- The human factor. When we talk about online learning, we do not mean learning that takes place exclusively by computer and pre-recorded content. Of course, self-study is a very useful tool, but the help that a teacher connected in real-time can give is irreplaceable and the best way to understand and assimilate the concepts studied.

- Connecting with people from all over the world. E-learning has made it possible to reduce the distance between people and institutions such as schools and universities in different parts of the world.
- The democratization of education. One of the advantages of distance learning is the reduction of costs. This allows access to quality education even for people who would not have the financial resources to attend physical courses.

According to Sangra, there are four general categories of definitions of e-learning:

1. **Technology-driven:** The use of technology to deliver learning and training programmes;
2. **Delivery-oriented:** The delivery of a learning programme, training or instruction by electronic means;
3. **Communication-oriented:** Learning facilitated by the use of digital tools and content that involves some form of interactivity, which may include online interaction between the learner and his/her teacher or peers.
4. **Educational paradigm oriented:** Information and communication technologies used to support students to improve their learning.

But what does it mean to use technology in distance learning? The distance learning lesson can work if it is short, precise and if it is video-recorded. Long video lessons might not be as sufficient, not only because students can suffer from bad wi-fi, but also because it is easy to get distracted when there is no attentive gaze from the teacher.

This emphasizes the great importance of planning: distance learning activities, like all teaching activities, require the construction of a learning environment, which is not just a question of the teacher but also of the students themselves.

Online learning - advantages and things to consider

What are the advantages of online learning?

1. Efficiency

Online learning offers teachers an efficient way to deliver lessons to students. Online learning can include a number of tools such as videos, PDFs, podcasts, and teachers can use all these tools as part of their lesson plans. By extending the lesson plan beyond traditional textbooks, teachers are able to become more efficient educators.

2. Accessibility of time and place

Another advantage of online education is that it allows students to attend classes from any location of their choice. It also allows schools to reach out to a more extensive network of students, instead of being restricted by geographical boundaries. Additionally, online lectures can be recorded, archived, and shared for future reference. This allows students to access the learning material at a time of their comfort.

3. Affordability

Another advantage of online learning is reduced financial costs. Online education is far more affordable as compared to physical learning (for example, online learning eliminates the costs of transportation). Additionally, all the course or study materials are available online, thus creating a paperless learning environment that is more affordable, while also being beneficial to the environment.

4. Improved student attendance

Since online classes can be taken from home or location of choice, there are fewer chances of students missing out on lessons.

5. Suits a variety of learning styles

Every student has a different learning journey and a different learning style. Some students are visual learners, while some students prefer to learn through audio. Similarly, some students thrive in the classroom, and other students are solo learners who get distracted by large groups. The online learning system, with its range of options and resources, can be personalized in many ways. It is the best way to create a perfect learning environment suited to the needs of each student.

What has to be considered when it comes to online learning?

Using technology in teaching allows the teacher to venture into a new field, experimenting with new technologies and adapting teaching content to the new situation of virtual classrooms. On the other hand, more skills are needed to manage an online classroom, which is why teachers are therefore faced with an additional challenge of adapting to new learning environments, with the same difficulties as always, but with new contours.

This is particularly difficult because, with the introduction of new technologies in teaching, there is a risk of losing sight of the fact that teaching, before being a transfer of knowledge, is a personal exchange between teacher and students. This relationship is in danger of fading

through the webcam because there is no closeness, no proximity. At a distance, it is difficult to be natural and empathy is also penalized by the best possible technology which inevitably cannot restore 100% of the liveliness of the relationship.

All this reinforces the evidence that the teacher is never completely replaceable. His role is also expressed and enhanced when, at the beginning of the video link, he greets and asks the students "how are you?" and makes them talk. We must not forget, especially in distance learning, that the student is not a mere performer of tasks.

Some other possible limits (therefore important things to consider) of online learning are:

1. Inability to focus on screens

For many students, one of the biggest challenges of online learning is the struggle with focusing on the screen for longer periods of time. With online learning, there is also a greater chance for students to be easily distracted by social media or other sites. Therefore, it is imperative for the teachers to keep their online classes crisp, engaging, and interactive to help students stay focused on the lesson.

2. Technology issues

Another key challenge of online classes is internet connectivity. While internet penetration has grown in leaps and bounds over the past few years, in smaller cities and towns, a consistent connection with decent speed is a problem. Without a consistent internet connection for students or teachers, there can be a lack of continuity in learning for the child. This is detrimental to the education process.

3. Sense of isolation

Students can learn a lot from being in the company of their classmates. However, in an online class, there is a minimal amount of physical interactions between students and teachers. This often results in a sense of isolation for the students. In this situation, it is imperative that the school allows other forms of communication between the students and teachers. This can include online messages, emails and video conferencing that will allow for face-to-face interaction and reduce the sense of isolation.

4. Teacher training

Online learning requires teachers to have a basic understanding of using digital forms of learning. However, this is not always the case. Very often, teachers have a very basic understanding of technology. Sometimes, they don’t even have the necessary resources and tools to conduct online classes. To combat this, it is important for schools to invest in training teachers with the latest technology updates so that they can conduct their online classes seamlessly.

5. Manage screen time

The increase in screen time is one of the biggest concerns and disadvantages of online learning. Sometimes students also develop bad posture and other physical problems due to staying hunched in front of a screen. A good solution to this would be to give the students plenty of breaks from the screen to refresh their mind and their body.

Topic 3 | E-learning tools

A great number of digital education tools have been created in the previous years, with the purpose of giving autonomy to the student, encouraging collaboration, and facilitating communication among peers and trainers.

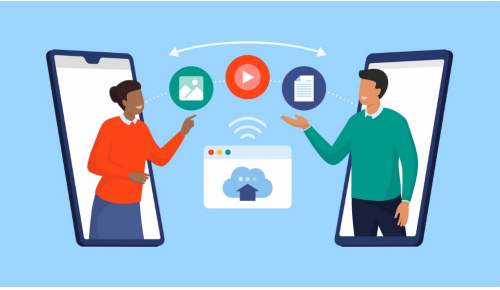
To effectively learn online, students must be active learners, though adult learners, particularly low-skilled adults, are often not prepared for this kind of learning. As a result, adult learners will achieve the most when using digital learning tools if they have additional support and help moving progressively toward stronger understanding (Digital Promise, 2016).

Trainers should support learners to process information and acquire new knowledge and competencies by helping them to organize new information, link it to their existing knowledge and guide them how to use digital tools effectively to achieve learning objectives. Thus, digital learning resources and computer software are used to facilitate these processes.

Through the use of digital learning tools, one can combine multimedia elements including text, image, video and audio to present information and tasks assignment as well as embed platforms for collaborating and sharing resources, so as to make the learning environment engaging and enrich the learning experience.

Below, some digital tools that can be used by adult educators for online/blended courses are presented, split in 9 different categories with regards to their use in learning environments.

3.1 File sharing tools



Cloud collaboration has emerged as an effective way of sharing and jointly working on digital files.

Using file-sharing tools, not only can multiple individuals work on the same document, but a student's trainer or peer can make suggestions or comments. Using these tools can help educators avoid having an email inbox that is overflowing with file

attachments. The following tools provide free storage, simple file sharing and automatic save of documents.

a) **Google Drive:** is a file-sharing service that allows users to store and access files from almost any device. Within Google Drive are Docs, Sheets and Slides, similar to Microsoft office packages, that allow you to create documents, presentations and spreadsheets online. Last but not least, trainers can also use the Forms service for students to complete class forms and organize their responses into a spreadsheet.

b) **Dropbox:** is a popular file-sharing tool because of its simple setup and flexible sharing options. You can share any of these files by creating a download link and share it with students, or by giving access to students to files/folders that they have to work on.

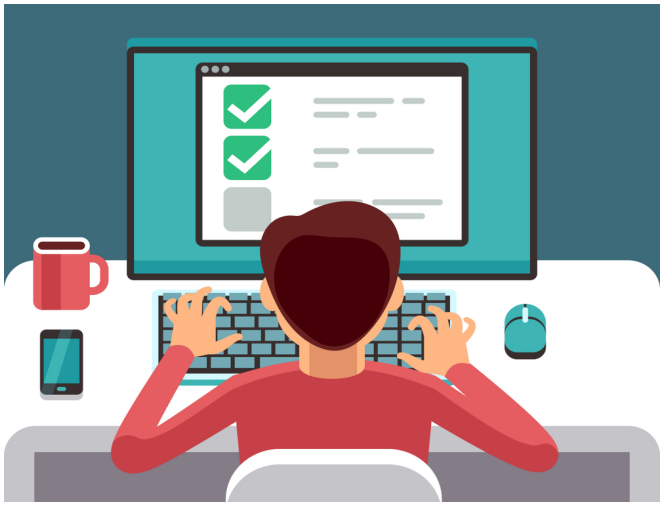
c) **Box:** it offers a similar set of features with Dropbox, with higher storage in the free version. Any file that you store in your Box.com account can then be shared by generating custom download links.

3.2 Quizzes, Polls and Assessment Tools

Assessments are a vital part of evaluating learners' achievement and engagement.

E-assessment has two key advantages: it substantially reduces teacher work time on assessments and allows for rapid teacher feedback on student learning outcomes (Whitelock, 2009).

E-assessment tools are very useful if you want to use them for assigning homework to learners or want to create online polls and quizzes to be used in the classroom to enhance the engagement of learners.



Here come some popular assessment tools that you can use:

a) **Mentimeter:** it enables students to provide real-time, online responses and feedback during class. Educators can use Mentimeter in various stages of a course and select from a variety of response options such as questions, polls, word clouds and reactions. Since there are numerous ways to engage, it's easier to get the whole class involved.

b) **Quizizz:** it uses a student-led and engaging formative assessment method. Students can lead their own study groups, host live games, and challenge their peers, so that they can assess their own learning by getting instant feedback. For educators, this instant feedback feature is great for assessing where students stand in their learning and analyzing data collected.

c) **Kahoot!** is an educational platform that is based on games and questions. Through this tool, teachers can create questionnaires, discussions, or surveys that complement academic lessons. The material is projected in the classroom and questions are answered by students while playing and learning at the same time. Kahoot! promotes game-based learning, which increases student engagement and creates a dynamic, social, and fun educational environment.

d) **Socrative:** Designed by a group of entrepreneurs and engineers passionate about education, Socrative is a system that allows educators to create exercises, assessments and educational games which learners can solve using mobile devices.

3.3 Tools for lessons planning, preparation and meeting

Apps and websites for online meetings, texting, messaging, and communication make it easier for educators to organize online sessions, send out assignments and reminders to students.

Some handy tools in this category include:

a) **Zoom:** it allows multiple users to engage in live meetings using their webcam and microphone devices, present using screen share, and provides a chat for side conversations or questions. One can customize backgrounds and create polls via the zoom account, so as to create an engaging and interactive learning atmosphere. It also includes the option to run breakout rooms for group assignment.

b) **Whereby:** one can open a video conferencing room, send the link to guests and they can join without having to install any application or create an account. It is a lightweight video chat tool with fewer features than Zoom but offers unprecedented ease of use. Users can share their screens

c) **WhatsApp:** with this widely used app built primarily for mobile use, educators can teach online by creating a virtual classroom or a group. The app supports free calls,video calls and texting, and can be a solution to attend courses online for learners that do not own a computer. It can also be used for sending out announcements, notifications, reminders, information specific for the course to the group of learners. Finally, it facilitates instant two-way interaction among the teacher, learner, and peers.

d) **Slack:** it is built primarily for synchronous communication, meaning that a group of learners should be online concurrently to fully make use of its instant messaging tool. It is a streamlined messaging and video conferencing platform that has been primarily used in working environments, but now as distance learning has been widely spread, educators have begun to explore Slack's value as a communication tool for remote students.

3.4 Social media and blogs

Social network tools afford students and instructors multiple opportunities to improve learning methods and enhance collaboration and engagement.

Learning through social media allows students and educators to post thoughts, ideas, comments and complete assignments in different formats (texts, visuals, audio/video-based) and in a more interactive learning environment.

Some of the social media platforms mostly used are displayed below:

a) **Facebook**: Facebook can be a very useful social media platform to incorporate into training programs. An instructor can create a dedicated Facebook page to post lessons updates, upload videos, share homework assignments and encourage discussion. Similarly, a closed Facebook group can be used for the same purpose and instructors can stream Facebook Live lectures. The choice between a FB page and group depends on if you want to give free access to the public (in this case a page should be created) or not (then the creation of a closed FB group is more suitable).

b) **Pinterest**: Instructors can create Pinterest boards for each of their classes and save pins that are relevant to lessons. In this way, they can prepare and organize resources, lesson

plans and worksheets for the class in one place. Students can also use Pinterest to curate a digital 'corner' for research projects, papers or group assignments.

c) **Instagram:** this social media platform allows students to practice digital storytelling in ways that other social media platforms may fall short. One can assign visual tasks to learners and shape a creative photo/video-based library for a course.

d) **Blogger:** Writing blog posts gives students another outlet for digital content that they can then easily link back to class social media channels. Blogger is one of the tools that educators can use to shape an online area for assignments, networking and discussions. Students can create their own user accounts to make discussion posts or add comments on class prompts. The training programme syllabus and any assignments, updates and resources can be shared on a blog as a central location as well.

3.5 Screencasting, Audio and Capture Tools

A screencast is a video recording of your computer screen and usually includes audio narration. A way to boost asynchronous online learning is by creating and sharing screencasts and instruction videos with students. In combination with audio and video, the educator can mimic the one-on-one experience in the classroom and deliver clear instructions. Learners can pause and rewind videos, to review content at their own pace, something that is not typically offered in synchronous learning environments. One can also use drawing tools to annotate slides or documents, so as to give emphasis on important elements of the training resources. Screencast tools can be used either as a desktop application or a Chrome extension. Some powerful useful tools for screencasting are the following:

a) **Nimbus:** a tool that is both a screenshot taker and screencast recorder (software on Chromebook). It allows educators to record videos from their screen and create screencasts. One can also use it to record video from a webcam, customize the resolution of the video screen, annotate the video with arrows, shapes, and text, as well as crop and trim videos. The produced videos can be uploaded to Google Drive and Dropbox.

b) **OBS studio:** this is a free software program for Linux, Windows, and MAC. With OBS Studio, one can live stream over Twitch or YouTube while screen casting. Trainers can also add existing videos or images into the recordings and you can combine multiple sources, such as images, window captures, capture cards, and more to create scenes.

c) **Loom:** Loom is a screen recording tool that allows educators to create to great instructional videos and tutorials using computer's microphone and camera (it can be used

either as a desktop application or a Chrome extension). Loom videos can be shared through a unique URL or an embed code and can also be downloaded as MP4 files. It also allows students to comment on and discuss the screen recordings.

d) **Screencastify:** Screencastify is a screen recorder and screencast maker (software on Chromebook). Using Screencastify, one can easily capture, edit and share videos. Some of the features it provides include browser tab or webcam capture, narrate with microphone's audio, customize video resolution, embed webcam into the screencast, annotate screen with a pen tool, focus a spotlight on your mouse.

3.6 Bookmark and content curation Tools

Online content curation is the process of selecting, reviewing, and organising resources available on the web for a particular audience.

It can be seen as putting together a readings list or portfolio, but with the benefit of attaching a review of, and/or comment on the resources one is recommending.

Effective bookmark content curation tools hold great importance to develop a successful learning course, as educators can select specific digital resources and associate them with achieving learning objectives of a training program.

It is significant for educators to keep an organized process of storing, curating and sharing of information (Cujba, 2018).

a) **SymbalooEDU:** this tool allows you to shape a personal startpage where you can navigate the web and collect your all favourite sites into one visual interface. With an account, you can save your bookmarks in the cloud. By default, your Symbaloo 'webmix' is private and secured in the cloud, but you have the option of sharing your resources with others so it's suitable for collaborative working.

b) **LiveBinders**: it is a platform to curate and present the resources in a simple way, organizing them in binders. You can view links just like book pages rather than URLs on any page. In the same binder, you can easily combine Word docs and uploaded PDFs with links. In addition, one can update information automatically, without the need for resending links.

c) **Diigo:** it is a bookmarking tool where you can bookmark and organize the links you come across online. With Diigo you can save links to your favorite websites, add notes and tags to help describe them, highlight specific content and create groups for knowledge sharing.

3.7 Learning Management Systems

A Learning Management System (LMS) is a software or online service that enables users to create online courses, simulations, or other educational experiences and offer e-learning training experiences.

These tools typically support conventional, presentation-like courses, and may enable screen recording, multimedia, interactivity and nonlinear or adaptive approaches.

Using an LMS, Instructional designers and trainers can create and share course content using Assignments, Discussions, Modules, Quizzes, and Pages.

Some popular LMS tools are:

a) **Moodle:** it is an online Learning Management System, providing educators around the world with an open-source solution for eLearning that is scalable, customisable and secure with the large selection of activities available. Last but not least, It is entirely free of charge and supports mobile learning.

b) **TalentLMS:** this tool is built to support blended learning curriculums that mix self-paced eLearning and instructor-led online learning. On the self-paced learning experience side, teachers can import existing courses, or create whole new courses from scratch using an included authoring tool, then set customized learner paths to dictate how and when learners can consume them. Features such as discussion forums and personal messaging enhance class interactions.

c) **Canvas LMS:** it is a web-based learning management system used by learning institutions, educators, and students to access and manage online courses and communicate about skill development and learning achievement. Canvas includes a variety of customizable course creation and management tools, course and user analytics and statistics, as well as internal communication tools.

d) **Thinkific:** with this tool educators can create and brand their own lessons. Thinkific courses support a variety of different content types (text, video, quizzes, downloads, discussions), and teachers can customize their courses to fit their curriculum needs by

setting prerequisite lessons, hiding courses from certain students, or creating a drip schedule for courses to become available.

3.8 Videos Hosting and Editing Tools

Video hosting services are websites or software which allow educators to create/record, edit and distribute their educational videos. Using videos in the classroom reaches learners with a variety of learning styles: visual, aural, physical or verbal. Some useful tools are displayed below:

a) **Powtoon:** it is a Web-based animation software that allows users to create animated presentations by utilising pre-created objects, imported images, provided music and user-created voice-overs.

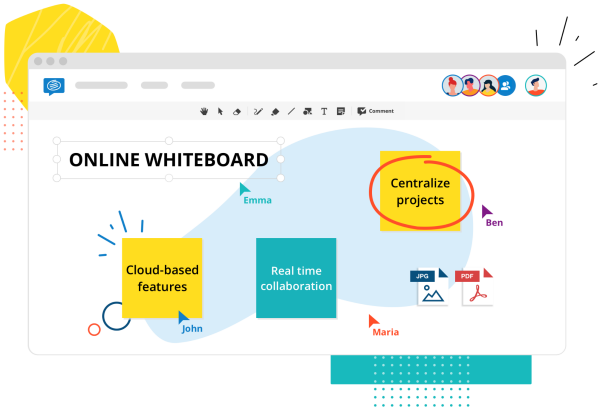
b) **Hippo Video:** it is an all-in-one online video tool for education. It covers the entire life cycle of video, from creating, editing, hosting, sharing to tracking.

c) **DaVinci Resolve:** it is a powerful free video editing tool used by educators and industry professionals. This tool can provide professional-level editing though it does not offer a recording option, so you need to record your videos elsewhere and then complete the editing in DaVinci.

d) **Video Form:** it is a robust online video creation platform that lets you create interactive educational videos for your learners. The tool has several functionalities including screen recording, face recording and editing. Other interesting features include that students can respond to teachers via video, audio or text and teachers can also add forms to their videos.

e) **Cavalry:** it is a motion graphics tool for Windows and Mac that combines the power and flexibility of 3d with the ease of use of 2d and enables you to create goal-oriented workflows. If you are not familiar with animation tools, the learning curve might seem steep though detailed tutorials are offered to assist you in getting the most out of it.

3.9 Online whiteboard tools



Online whiteboards offer a flexible digital space where you can collaborate and share ideas with your learners.

You can create an online canvas and use that as a simple whiteboard for jotting down ideas, or as a board for building a project with a remote group of learners.

Some useful tools in this category include:

a) **Miro:** besides the regular online whiteboard features of uploading images, creating notes and drawing in different colors and sizes, the app offers a great template library to conveniently find the right structure you need for your whiteboard.

b) **Mural:** it is a versatile online whiteboard tool, particularly strong for teamwork, that allows you to create different rooms for your board with differentiated access rights. It offers a wide range of workshop and meeting templates, including planning, design, issue analysis and idea generation board templates.

c) **Stormboard:** this tool focuses on idea generation, organization, and prioritization: You can add different types of notes, combine them together, comment in threads, and vote on ideas using colored dots. It has a strong reporting functionality that allows you to instantly turn your online sticky notes into structured reports. With its MS Office integration, the reports can be collaboratively edited and then shared immediately with learners.

Topic 4 | Best Practices & Strategies

1. Online teaching doesn't need to be completely different from in-classroom teaching

The hallmarks of a quality curriculum have not changed – it still needs to be carefully planned, so that students build upon their learning progressively with each lesson. You need to clarify your learning goals, as usual, and you can use a textbook and worksheets to enhance their understanding: remote education is not always based online.

The main differences are that you need to find another way to assess students' work – for example, by asking them to take pictures of their completed worksheets – and you may need to set the work at a different time, such as at the start of the day or week, rather than within one set lesson period. Additionally, since you can't correct misunderstandings as easily through remote teaching, you need to consider your explanations carefully and provide scaffolding or 'frequently asked questions' within each assessment.

2. Keep it simple

Because remote learning can be more distracting for some students, try not to overwhelm them with too many graphics, illustrations, or unnecessary links. Use these features only when they give a useful demonstration of a key concept, or to break up the text strategically. However, it is important to include videos and recorded narration when you are explaining a difficult concept that your students have not encountered before.

It is also a good idea to divide lesson content into smaller parts than usual - choose several key concepts to focus on each week and don't be tempted to give students large projects, because research has shown that this is a less effective way of teaching remotely. You need to be able to check that students are understanding the information at each stage of teaching, rather than completing lots of work but misunderstanding fundamental concepts.

3. Feedback and assessment are as important as ever

Being assessed and receiving feedback is the key to reinforce students' understanding - not being physically in the classroom doesn't have to stop you from providing these things. Assessments might be built into the digital platform that you use, or you could set up short quizzes or varied activities to be completed after small chunks of lessons. This helps with engagement, as well as gives your students the opportunity to get regular automatic feedback. At the end of a lesson or topic, you could create a larger assessment that helps your students to reflect on what they have learned and practise retrieval of concepts.

Other ways to give feedback include interacting with your students in chat rooms or forums, sending them emails with your comments or using tools like Google Docs, Google Slides and breakout rooms for peer interaction and feedback.

4. Set expectations

You need to ensure that your students know exactly what they can expect from you, and what will be required of them. This might include the work they will be expected to complete (and when), how much you will communicate with them, the digital programmes you are going to use, and your expectations for their behavior – for example, taking their lessons in a suitable location if possible, and muting their microphone where necessary.

5. Stay in regular contact

If students feel that their teachers are 'watching' and always there to answer questions, it increases their motivation and confidence. You could stay in regular contact using a variety of communication methods, including discussion boards, forums, announcements and emails (including automated check-in emails asking where students have got up to with their work). Some communication can be to the whole class, but some should also be individual.

6. Don't be afraid to move away from live lessons

Live lessons have many advantages and can certainly be used, but don't feel as though you have to provide them every day. Other types of lessons, such as externally-produced or pre-recorded videos, can help you to keep your students' attention: variety and integration of tasks and assessments within a virtual lesson are sometimes more effective than live lecturing. See what works for you, your content, and your students.

7. Ask your students for feedback

Every couple of weeks, ask your students for honest feedback about how they are finding your lessons; you could do this through a Google form or posting it on a discussion board. Include questions about the content and your teaching methods – which areas they are personally concerned or excited about, and which areas could be improved.

A feedback culture is an essential part of an online learning toolkit - creating a comprehensive feedback system for the questions can help learners understand the content and make improvements accordingly. Therefore it is important to create a timely and helpful online learning feedback system that can provide instant feedback. This will help learners to identify their mistakes and improve their performance. Create online learning feedback related to

real-world implications, which will help learners to properly improve their actions and behaviors.

8. Talk to other teachers and staff

Share your tips and tricks, resources and lessons. Remote teaching can feel isolated, and making an effort to stay in contact with your colleagues could make all the difference.

9. Set a goal for every period

Online learning is a huge and evolving platform that offers learners a new perspective on higher education. You can find many challenges when creating an effective online learning process, but before that, you must have a deep knowledge of how to access and manage the resources. Major goals that you can find in the online learning process involve the quality of learning, meeting learning needs, learning styles, learning effectiveness, learner-accessibility, and time flexibility.

Setting goals in online learning is necessary to produce higher results when you have proper knowledge of its usage. When you set the right goals, it can give you successful outputs. The most used technique for the online learning process is S.M.A.R.T, and it is considered as the easiest way to engage. Initials stand for S (specific) – create a specific goal for greater outcomes; M (measurable) – choose effective tools to measure results; A (attainable) – helps to avoid conflicts in opinion; R (realistic) – setting goals aligned with potential inputs and T (time-Based) – setting a timeline.

10. Break up your lessons

Chunk information and activities to create movement, rather than having one big, long lesson. Perhaps you'll cover a subject for 20 minutes then do a related exercise or demonstration. Do frequent comprehension checks by asking students to raise hands, clap, thumbs up, drop an emoji" and more. Maintaining interaction throughout your lessons is important to maintain students' attention. In addition, do not overlook the importance of a brief break. Even a five-minute break every half hour is enough for you and your students to rest and recharge.

11. Use technology to your advantage

Keep in mind that technology itself does not produce learning; it simply strengthens and extends instructional strategies. You can make use of the opportunities that technology offers, such as chat, polls and collaboration tools. Consider what tools will be easiest for you to regularly maintain and update content.

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Test and Evaluation

Technological pedagogical content knowledge (TPCK) is a specific knowledge, consisting of 2 knowledge bases	T/F
Basic ICT skills contain knowledge of computer systems, use of operating systems, searching the internet, communication and networking, word processing and use of spreadsheets	T/F
Efficiency, affordability and accessibility of time and place are one of the advantages of online learning.	T/F
Online learning can cause a sense of isolation.	T/F
Dropbox is an example of a file sharing tool.	T/F
E-assessment tools increase teachers' amount of work when it comes to working on assessments.	T/F
Learning through social media allows students and educators to post thoughts, ideas, comments and complete assignments in different formats	T/F
Moodle is an example of a bookmark and content curation tool.	T/F
When it comes to online teaching and learning, feedback is not as important as in traditional methods.	T/F
When using online teaching methods, it's important to stay in regular contact with your students via communication tools.	T/F

SELF-ASSESSMENT QUESTIONNAIRE

1. For which subject(s) do you find implementation for more interactive learning, E-learning tools and social media most useful and why?

2. Which of the three components of ICT (basic skills/advanced skills/multimedia and attitudes toward ICT) is, in your opinion, the least known amongst your students, and why? With the help of the knowledge you obtained in this module, what could you do to improve those skills?

3. Which are, in your opinion, 3 characteristics of interactive and E-learning that could stimulate the biggest change in the current traditional classrooms?

4. Amongst the presented E-learning tools, choose 4 which you would most likely use in your classroom and briefly explain your choice.

5. After getting familiar with the theory and accompanying activities of the module, which activity appeals to you the most?

Presentation

Correct answers of the quiz:

1) F
2) T
3) T
4) T
5) T
6) F
7) T
8) F
9) F
10) T

Sources & Additional Materials

Cujba, S. (2018), Racoon Gang, (accessed 12 October 2021)
Top 7 Content Curation Tools for Education

Digital Promise (2016), (accessed 14 October 2021)
Designing Technology for Adult Learners: Support and Scaffolding

Snyder, I. & Jones, A. & Lo Bianco, J.. (2004, .Support Document, National Centre for Vocational Education Research (NCVER).
Using Information and Communication Technologies in Adult Literacy Education: New Practices, New Challenges.

Whitelock, D. (2009). British Journal of Educational Technology, Vol 40, No 2, p. 199–202.
Editorial: E-assessment: Developing new dialogues for the digital age

A comprehensive list of tools for online learning:
https://c4lpt.co.uk/directory-of-learning-performance-tools/content-social-bookmarking-tools/

Integrating Digital tools for Adult Learners: Four Critical Factors:
https://digitalpromise.org/wp-content/uploads/2016/03/dp-integrating_digital_tools.pdf

The Art Of Writing Great Voice Over Scripts:
https://theelearningcoach.com/elearning_design/the-art-of-writing-great-voice-over-scripts/

Humanizing Learning with Digital Tools:
https://www.youtube.com/watch?v=koeSwzVV18Y&t=1195s

The BlendKit Course - Blended Learning Toolkit: https://blended.online.ucf.edu/blendkit-course/

Link to Japanese research mentioned in the topic of ICT (page 5):
https://www.researchgate.net/publication/324438035_ICT_as_a_catalyst_for_teaching-learning_process_A_meta-analysis_study